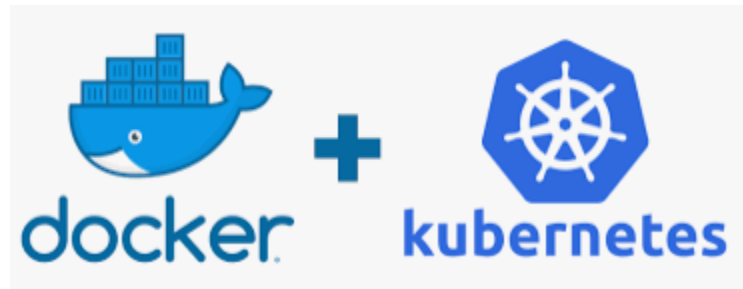# I AM IT PROFESSIONAL

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Docker & K8s - Course Content

Docker is a platform for packaging, deploying, and running applications in containers. **Docker has revolutionized the software industry and it is on its way to being the most in-demand technology in the market.**

Kubernetes is a system for managing containerized applications across a cluster of nodes. It provides basic mechanisms for deployment, maintenance, and scaling of applications. In the current industrial scenario, where **Kubernetes project ideas record a high demand across domains, the career prospects for Kubernetes professionals look highly promising.**

Docker and Kubernetes are important technologies that can help you scale your applications. In the Docker Kubernetes training, you will learn to build, test, and deploy Docker applications with Kubernetes.

I AM IT PROFESSIONAL brings to you a unique training covering basic to advanced-level concepts of Docker and Kubernetes. The training offers an engaging and immersive learning experience for participants where they can take advantage of connecting with an industry expert trainer, develop their competencies to meet industry and organizational standards.

Docker and Kubernetes Training Prerequisites

There are no prerequisites for attending this course. It would be beneficial for you to have the knowledge in the following concepts and if you're not aware of it, don't worry, we'll cover in our session.

- ➢ Virtualization
- ➢ Linux & Networking Fundamentals
- ➢ Installing and Configuring Applications
- ➢ Basic understanding of DevOps

Introduction

- ➢ Course Introduction
- ➢ Introduction to Microservices
- ➢ Microservices Concepts
- ➢ Microservices Advantages and Drawbacks
- ➢ Cloud Native Concepts

Introduction to Containers

- ➢ Container Concepts
- ➢ What is Docker?
- ➢ Docker Hands-On
- ➢ Basic Commands
- ➢ Basic Commands Hands-On
- ➢ Running Containers
- ➢ Running Containers Hands-On

- ➤ Building Containers
- ➤ Building Containers Hands-On

Persisting Data

- ➤ Containers are Ephemerous and Stateless
- ➤ Docker Volumes Concepts
- ➤ Using Docker Volumes Hands-On

Docker Compose

- ➤ Understanding the YAML File Structure
- ➤ Docker Compose Concepts
- ➤ Using Docker Compose
- ➤ Using Docker Compose Hands-On
- ➤ Docker Compose Sample App Hands-on
- ➤ Docker Compose Features

Container Registries

- ➤ Container Registries Concepts
- ➤ Push/Pull Images from Docker Hub
- ➤ Push/Pull Images from Docker Hub Hands-On

Kubernetes Concepts

- ➤ Kubernetes Concepts
- ➤ Kubernetes Architecture
- ➤ How to Run Kubernetes Locally
- ➤ How to Run Kubernetes Locally Hands-On
- ➤ Kubernetes API
- ➤ Using Kubectl Hands-On
- ➤ The Declarative Way vs the Imperative Way
- ➤ The Declarative Way vs the Imperative Way Hands-On

Namespaces

- Namespaces Concepts
- Namespaces Hands-On

Nodes

- Master Node Concepts
- Worker Nodes Concepts
- Nodes Hands-On

Pods

- Pod Concepts
- The Pod Lifecycle
- Defining and Running Pods
- Pod Hands-On
- Init Containers
- Init Containers Hands-On

Selectors

- Selector Concepts
- Selector Hands-On

Multi Container Pods

- Common Patterns for Running More then One Container in a Pod
- Multi Container Pods Networking Concepts
- Multi Containers Pods Hands-On

Workloads

- Introduction to Workloads
- ReplicaSet Concepts
- ReplicaSet Hands-On

- Deployment Concepts
- Deployment Hands-On
- DaemonSet Concepts
- DaemonSet Hands-On
- StatefulSet Concepts
- StatefulSet Hands-On
- Job Concepts
- Job Hands-On
- CronJob Concepts
- CronJob Hands-On

Updates

- Rolling Updates Concepts
- Rolling Updates Hands-On
- Blue-Green Deployments
- Blue-Green Deployments Hands-On

Services

- What are services?
- ClusterIP Concepts
- ClusterIP Hands-On
- NodePort Concepts
- NodePort Hands-On
- Load Balancer Concepts
- Load Balancer on Docker Desktop Hands-On

Storage & Persistence

- Storage & Persistence Concepts
- The Static Way
- The Static Way Hands-On
- The Dynamic Way

Application Settings

- ➢ ConfigMaps Concepts
- ➢ ConfigMaps Hands-On
- ➢ Secrets Concepts
- ➢ Secrets Hands-On

Scaling

- ➢ Auto Scaling Pods using the Horizontal Pod Autoscaler
- ➢ Auto Scaling Pods Hands-On

Conclusion

- ➢ Interview preparation

- ➢ Resume/CV build

- ➢ **Projects**

Thank You!
Happy Learning!
All the Best!